THE SAFETY CLAUSE

DCMC's FLIGHT OPERATIONS INTERNET NEWS LETTER, EDITION VI

Greetings and salutations. Welcome to today's episode of "The Safety Clause." This edition has been made possible by those wonderful folks at Microsoft, motto: "We don't need no stinking backwards compatibility." We can only assume that if you're reading this edition that you've downloaded it off the web and sent it to the FBI Labs to see if they could make heads or tails of it. They immediately whisked it back to you after their Cray IV crashed several times trying to decode it, at which time you gave it to your six year old who instantly recognized it as some ancient form of Aramaic Word and using a quasi-dimensional-multi-variable regression program was able to translate it into a readable format, after a fashion. Obviously, there may have been some data loss in the translation, but I'm sure you'll agree as long as you +&(^%$aeYI@ :⇔∞ ½¹≠∀?" AβεΥψ ℘ ≠☼☜Ⅿ êⅅ you've read and understood the most important part of this newsletter.

If you were the one who downloaded the file from the web, we hope you were sufficiently dazzled by our new web site. We wanted to make the site pleasing to the eye while still including lots of useful information (including this "not exactly" Pulitzer Prize contending newsletter). We also wanted it easy to navigate through. We think we succeeded. The Pascagoula Picayune restaurant reviewer called it, "A wonderfully amusing web site. A little busy but never pretentious with just the right blend of barley and hops." We hope you'll agree.

FYI
-Lt Col John Heib

Contractor Self Oversight (CSO) Initiative. The first meeting of the CSO PAT look place in February. There was heated agreement on the program. We see some form of CSO in the flight ops area as inevitable. However, we also feel it is important to proceed very slowly. Baby steps if you will. Hopefully we can do a few test cases by this summer. The test cases will only include locations without onsite APTs. We're looking for one site each from Districts West, East and International.

The Tri-Service Agreement On Policy and Procedures for Support and Accomplishment of Flight Test and Acceptance, Flight Operations and Flight Safety. This is the basic agreement between the Services and DLA on how we'll conduct flight operations, and we're getting ready to rewrite it. We're forming a PAT with the help of the Aviation Business Process Board under the Joint Aeronautical Commanders' Group. The rewrite will focus on fixing problems with manning and funding. We've mentioned before that we're planning on rewriting DLAM 8220.3. That project is on hold until the Tri-Service Agreement rewrite is finished since the DLAM mirrors the requirements of the Agreement.

DLAI 8200.4. Lt Col Frank Baily, District West's CFO, and CDR Mark Feallock here at "DCMD- (editor's note: fill in today's office symbol before publishing)" will be heading up a rewrite of our mishap notification instruction. The new instruction will become

a new One Book (AKA DLAD 5000.4) chapter. CDR Feallock is working on developing a new FY'98 Business Plan Task for this project to get funding for it.

DLAD 5000.4. Speaking of the One Book, did you know our new chapter is out? Yes, hot of the presses and conveniently available for your perusal off the web. The links even work! You can go directly to our chapter (1.2.3) through Flight Ops' Resources page.

Speaking of things on the web, someone sent me a cool new web site for the Aircraft Rescue & Fire Fighting Working Group (ARFFWG):
 'www.i-way.co.uk/~colins/arff/arff.shtml'.
ARFFWG is a non-profit international organization dedicated to the sharing of Aircraft Rescue & Fire Fighting (ARFF) information between airport firefighters, municipal fire departments, and all others concerned with aircraft fire fighting.

For those of you reading the dried rain forest pulp version of this newsletter, DCMC has changed its web address to 'www.dcmc.hq.dla.mil'. Please make a note of it.

The name game. Yes, just when you thought is was safe to print up new address labels, we changed our office symbol on you again. Coincidence, or diabolical plot to misdirect messages from outside agencies? Your guess is as good as ours. Anyway, our new symbol is DCMC-OI. This is not to be confused with DCMC-PI, which is *SO* last Tuesday. Recently, I received an e-mail from Frank Baily in which he posed the question, "What's the philosophy behind the new symbol?" So, as a public service I thought I'd give you all a "Mystory" lesson on our office symbol.

It all started, for me at least, in the roaring eighties. HQ flight ops was going by the name DQMSO-S. "DQMSO" being Latin for *office symbol* and "S" being the eighteenth letter in the alphabet if you don't count "Q", and who does anymore.

Following Goldwater-Nichols, flight ops moved to Cameron Station and took on the new moniker DLA-QF. Fearing that someone might mistakenly believe we were part of DLA, this was later modified to DCMC-QF. And so it remained for at least several weeks before someone, and I can only assume large quantities of illegal narcotics were involved here, changed our name to AQCOI.

About three years ago AQ and OI suddenly banded together and banished the "C" after it was determined that the C was silent anyway. Flight ops was now AQOI, and thank goodness Frank didn't ask me what AQOI stands for.

This brings us to a month ago when we changed our symbol once again. This time to DCMC-PI. Personally, I liked PI. It allowed us to refer to our team as the "Magnum" team. Unfortunately, the other teams became *SO* jealous it was causing great disharmony in the ranks. To make matters worse Col McNulty and Linda James had new business cards printed with DCMC-PI blatantly inscribed on them. And don't get me started on the Tom Selleck lawsuit. So, following a brief fact finding trip to Aruba, the powers-that-be determined there were several rainforests still around that we could deforest allowing us to print up *NEW* new business cards. We then became "DCMC-OI".

Which brings me to Frank's original question, "What's it all mean?" Well, DCMC stands for Defense Contract Management Command or at least that's the story we've been telling everyone. "O", obviously, stands for "Policy". Of course, some troublemakers have argued that "P" should stand for Policy. Did we learn nothing from the P+I wars? Anyway, the "I" stands for flight, because you need good "I" sight to fly, BWHA HA HA HA HA!

Where was I? Ah yes, DCMC-OI. By now you're probably asking yourself, "What about the future?" I'm glad you asked. In an effort to eliminate the quantum fluctuations in our office symbol we've recommended changing our symbol to,

After which, we'll be known as the organization formally known as flight ops. We'll keep you informed on our progress.

DCMC Flight Operations is an active member of the DoD Unmanned Aerial Vehicle (UAV)/Remotely Operated Aircraft (ROA) Working Group (WG). Major Andrew Chappell is our point man on this effort. This group was established by the direction of the Executive Director, DoD Policy Board on Federal Aviation (PBFA), with the concurrence of the Services, to provide a forum for the DoD to work issues concerning all the Services with respect to UAV/ROA operations in the National Airspace System (NAS). The WG will also function as the DoD single point of contact to the Federal Aviation Administration for discussion and policy development on UAVs/ROAs and will serve as a complement to the FAA's own UAV/ROA working group. On 27 January, the DoD WG briefed the FAA on DoD UAV/ROA operations. The FAA requested the two work groups, the DoD and FAA, work jointly on the issues created by the proliferation of this new evolving technology. DCMC-OI will incorporate the findings of the working groups in future policy guidance for APTs working with UAVs/ROAs.

SAFETY NEWS

-CDR Mark Feallock

Time for another view from the dark side, better known as Flight Safety. I say dark because we typically don't get noticed until something bad happens, when of course, uninformed people start asking why this wasn't done to prevent that, yada yada. Lo and behold, there is something that can be done….the first step of the ORM process, Hazard Identification.

I had a terrific opportunity to visit the facilities at DCMC Lockheed-Martin Federal Systems Owego, in New York a couple weeks ago. What a great organization! They were having one of their quarterly Safety Stand-downs and asked if I would come up to give a brief. So, with ORM slides in hand, off I went. As I briefed one of the various incidents that had occurred throughout DCMC, the question was asked "Why is *that* a mishap?" The incident involved a situation where a contractor had spotted a gouged powershaft during preflight that was determined damaged enough to be replaced. Was this a mishap? Well, in this case, NO, because it didn't meet the dollar criteria as a reportable mishap. Was it a Hazard? Definitely. If left undetected or uncorrected, it would've ultimately lead to and caused a mishap.

I'll revert back to my Navy training, since that's what I'm most familiar with, and remember attending Aviation Safety Officer School. An intense 6 week golf outing at Pebble Beach…no, I mean an intense 6 week Accident Investigation course in Monterey, CA. Forget what I said about golf. The focus was OPNAVINST 3750.6, the Navy's instruction governing their Aviation Safety Program. It's divided into 9 chapters, with accompanying appendices, starting with Chapter 1 and 2 covering the usual administrivia BS, like "who this" and definitions. Chapter 3, however, is devoted specifically to Hazard reporting. I quote, "A hazard is defined as a potential cause of damage or injury." This chapter continues with "Detection of Hazards", "Hazard Reporting," and even includes a section on anonymous hazard reports, utilized by activities or individuals reluctant to identify hazards derived from unique situations or circumstances.

There are three purposes for hazard reporting, all of which are intended to eliminate hazards. First, to report a hazard *and* the remedial actions taken, so that others may take similar actions to eliminate their analogous hazard. Second, to report a hazard and recommend corrective actions by another organization to eliminate a hazard. Third, report a hazard so that another organization may determine appropriate corrective action to eliminate the hazard.

Probably the most important of these is the first, since a solution is being provided that gives the fellow units a prescription for corrective action. Something else that is equally important to consider is when a mishap occurs and a hazard is discovered during the course of the investigation, it must be presented in a privileged fashion so that others can take appropriate action.

Furthermore, on occasion, during the course of an investigation, hazards may be detected that require remedial action, but are not themselves causal factors in the specific mishap being investigated. These hazards must also be addressed with the same zeal one would direct at causal hazards.

As I draw this section to a close, I'll mention that we use DLAI 8200.4 for reporting mishaps, but there really isn't a section that addresses hazards prior to mishaps. Okay, I'd rather have something reported than nothing if you're splitting hairs (and if you remember me from the APT Seminar you'll agree you've got more hairs available for splitting than I do!) on whether it's a mishap or hazard. We will be organizing an effort to rewrite this instruction, and this will be one of the topics that gets addressed. I wanted to finish with the idea that just reporting mishaps isn't enough; the hazards that caused the mishap may still lurk in the system and until they are corrected or eliminated, another mishap will occur. Reporting the things that "got broke" doesn't fully address the problem of what caused things to "get broke". Spread the word-----FLEA.

AMM NEWS   MSgt. Milton Dillard

AMM Course Update. Our next AMM course offering will be held at DCMC Boeing Long Beach, 13-17 April, 1998. Anyone who would like to attend our course should contact your District AMM CMSgt Penman for District West, (310)335-3673, DSN 972-3673, Mike Lathrop for District East, (617) 753-4078, DSN 955-4078, and SMSgt Mark Baumbusch for District International (703)767-2494, DSN 427-2494.

NAS 412. The National Aerospace Standard 412 is now available in Word format on our DCMC Flight Ops Web Page. This document establishes a standard for the military and commercial industry to prevent foreign object damage (FOD) to aerospace products being designed, developed, manufactured, assembled, operated, repaired, refurbished and maintained.

The document can be found under Worth Knowing on our Web Page section. Just double click and enjoy.

ORM

ORM implementation in DCMC flight ops is progressing well since our test case at Boeing Long Beach. Recently, we tasked each of the District CFOs to have the APTs try their own test case and report their results back to us. Our ORM instructional course is all set for 23-27 March here at Ft. Belvoir. I believe one of the best ways to learn ORM is to see how it was implemented in practical applications. I'm including two articles on ORM that I hope you'll find useful.

The first of those articles appeared in the October, 1997, edition of *AIR SCOOP*. Reprinted by permission. Notice how the author uses a risk analysis method other than the standard Risk vs. Probability matrix.

ORM at Lakenheath.

For the last 8 months or so, I have been writing about Risk Management and providing you monthly installments in the *AIR SCOOP*. The discussion has been limited to philosophy and theory. I can almost see you sitting there with the thousand yard stare ... and the light bulb not on yet, so I'd like to wrap up the series with a real world example of how Risk Management was successfully applied in USAFE. I wish to show you how Lakenheath used the Risk Management process as well as describe some of the tools they used. Hopefully, this article will flip the switch and complete the circuit of understanding.

In 1995, RAF Lakenheath's runway was in desperate need of repair. A decision was made to close the runway for several months while the runways and taxiways were refurbished. Of course Lakenheath could not afford to stand down operations for this lengthy period of time, so a decision was made to operate out of RAF Honnington -- a nearby base.

The Lakenheath Chief of Safety, Lt. Col. Leslie Arnold (the 1995 Air Force Chief of Staff Individual Safety Award Winner), came to me with concerns about all the safety implications associated with such an operation. He asked if I had any bright ideas of how to tackle this challenge. I had recently learned about Risk Management, and had written my first draft of the USAFE Risk Management Guide. I pulled it out, and said, "try this." *(Note: At this point in history the Air Force ORM process was still in the proposal stages. The USAFE Risk Management process was a five-step process at this time. And remember, "when interfacing with an organization that uses a five-step method, keep in mind that they have taken steps three and four of the Air Force process and combined them into one step in their programs." I have taken the liberty of embellishing this story into the six-step process. Hey, it's my story. ...)*

The first thing Lakenheath had to do was **IDENTIFY THE HAZARDS**. They

started by using the Operational Analysis tool. They reviewed the planned operation out of RAF Honnington, and described the mission. They defined the tasks and the conditions under which the operation was to be conducted. They broke the operation down into "bite-sized" chunks. For each chunk, they devised flow diagrams to illustrate the relationship between time and location. The Combined Safety Council (CSC) convened to accomplish a "Preliminary Hazard Analysis." They used the "What If" and "Scenario" Techniques to come up with an initial list of hazards. The CSC adjourned with Strategic Hazard Identification homework assignments. Mishap and after action reports were reviewed for applicability to their situation. Historical records and databases were consulted, and expert advice was sought. The CSC then re-convened to list all the possible hazards they had discovered. They identified over a thousand possible hazards. Since I'm not allowed to hog the whole magazine, from here I'll just take you through the rest of the Risk Management process with one hazard that was identified -- Exposure to automobile accidents.

It was now time to **ASSESS THE RISK**. The first action in this step is to assess hazard exposure. The CSC figured that approximately 300 people would travel to and from RAF Honnington on any given day. The distance was approximately 20 miles. They expected to conduct operations at Honnington for about 90 days. So, they came up with the following assessment for exposure: 300 people/day * 20 miles * 90 days = 540,000 units of road hazard exposure (RHE). Now it was time to assess hazard severity and probability. This is where they turned for expert advice. The Safety office consulted with the United Kingdom Ministry of Transport (U.K.

MOT). From the U.K. MOT statistical data base worst case scenario, with no other risk controls, Lakenheath could expect 1 Fatality / 100,000 units RHE and about 15-20 vehicle mishaps for this time period. This equated to about 5.4 deaths for the operation in question! Automobile accidents ranked high in the priority of risks to be controlled.

The CSC then went to Step Three - **ANALYZE CONTROL MEASURES**. Again, using brainstorming techniques, the CSC identified control options and determined their effects. They discovered that seatbelt usage would cut fatality probability and severity by over half. By traveling on selected routes and avoiding peak hours, they could also reduce mishap probability. They also addressed the exposure problem with a busing solution. Figuring 25 people per bus, they realized that they could cut their RHE to 21,600 (540,000 / 25). They checked with the U.K. MOT to see if RHE for buses was similar. To everyone's delight, they found that rate for buses was 1 Fatality/200,000RHE. This reduced their risk assessment to .1 Fatality for the entire operation. There were some other control measures devised, such as mandatory routes, driver selection, and scheduling off peak travel periods. These and other control measures were then prioritized for selection. This made the cut.

The next step was easy -- **MAKE CONTROL DECISION**. This is the beauty of Risk Management. The CSC had logical, scientific, calculated solutions ranked for the Wing Commander to review. (Commanders like good staff work!) The control measures were ranked based on feasibility (can we do it), efficacy (how well the control(s) will work), and efficiency (how much will it cost). It is interesting to note the busing solution was a lot cheaper than paying

individuals mileage. The mandatory busing plan was selected. Of course, not everyone could ride the bus without an adverse impact on the mission. So, other control measures were adopted to address this. An aggressive seatbelt awareness program was adopted. Mandatory routes were selected to avoid congested areas and known high accident areas. Movements were to be scheduled to avoid peak traffic periods. Finally, only highly qualified individuals were allowed to drive the buses, and these drivers were provided with additional training.

Then, Lakenheath faced the next challenge -- **RISK CONTROL IMPLEMENTATION**. The Combined Safety Council made the implementation clear. They published a detailed Operating Instruction, which established responsibilities and accountability. In addition, they advertised the program, briefed it at commander's calls, and supported the plan. The commanders demonstrated support through participation. When the Wing Commander flew as my wingman, he sat right up front in the bus; the 3 AF/CC preferred the back. Leadership demonstrated that the policy applied to everyone.

Finally, Lakenheath applied step six, which you'll recall is-- **SUPERVISE AND REVIEW**. Commanders, Safety, and the SPs did periodic spot checks to insure compliance with the busing and seatbelt policy. Because of the successful awareness program, there were just a few deviations noted, and those individuals were provided with additional awareness training. About half way through the operation, road construction started on the primary mandatory route. The CSC re-applied the ORM process, did some change analysis, and modified the mandatory routes. Finally, they measured their results. The Wing

Commander once said to me, "You know Cowboy, it is hard to measure mishaps prevented." Risk Management modified his opinion. Based on the predictive analysis, he could show that they had prevented five fatalities. Instead of the predicted 15 -20 vehicular mishaps, because of the mandatory route and driver selection, they sustained only five mishaps. Furthermore, in all five mishaps there was 100% seat-belt usage, and in the expert opinion of the accident investigators, seatbelts were directly responsible for mitigating injuries. These results show the benefits of ORM versus the costs in time, personnel, and efforts to implement.

Of course, in the spirit of continuous improvement, I must point out some things that could have been done better. At the time, the Risk Management process in USAFE was not formalized. Lakenheath did not document all the steps in the ORM process that they used. We had not thought about it, and it was not in anything that I had written or given Lakenheath. Information on the tools used and outcome of some steps is based on the recollections of those involved. The after action report documents the successes and failures, but it does not describe the process and "the how." Formal Risk Management is designed to capture the successes and failures of the process. That way the successes can be repeatable. Recently, another USAFE base was faced with a similar situation. Spangdahlem's runway needed resurfacing and they decided to operate out of Bitburg. Spangdahlem had to reinvent the ORM wheel. It would have been nice to have had the list of hazards that Lakenheath identified. It would have made it quicker to evaluate which ones applied to their situation than having to brainstorm them on their own. This, in turn, would have allowed more time to identify additional

hazards. This concept applies to each subsequent step in the Risk Management process. I do not want to imply in any way that Lakenheath's ORM efforts were a failure… actually, far from it. Their efforts were quite successful. This simply reinforces the idea that we will get better each time we do it.

I hope the Lakenheath example ties all the pieces of the ORM pie together. Please remember what I have said about ORM from the beginning ... this will not happen overnight, but it will never happen if we don't start.

The second article appeared in the January, 1998, edition of **Approach**. Reprinted by permission. It demonstrates how you can use ORM every day (if you so choose).

THREE CAME BACK: An ORM Tale by LCDR Trey Turner

The work-up cycle continued and the next at-sea period was days away. The squadron had to produce 13 fully mission-capable aircraft. All the maintenance personnel were working 12 hours on and 12 hours off through the weekend.

The biggest obstacle was bad weather. The functional-check flights were stacking up. It was winter in Virginia Beach. Weather patterns during this time of year are unpredictable at best. When a system does move through you can usually count on overcast conditions with occasional low ceilings. The pressure to fly the functional check flights (FCFs) was intensifying.

OPNAV 3710.7Q gives a commanding officer some latitude in determining if check flight should be flown:

Functional-check flights should be conducted during daylight hours within the local flying area in VMC and under VFR. If necessary, to accomplish the assigned mission, unit commanders may authorize check flights under conditions other than the above if in their opinion the flight can be conducted with an acceptable margin of safety under the existing conditions.

By now the ship was under way with the majority of our tools, parts, and maintenance personnel. Only a small cadre of skilled, hard-working maintenance people had been left behind. The first available aircraft had already flown aboard to begin CQ, and additional overhead times were expected the following day.

The check-flight crews were in early that morning, standing by to man up at the first sign of a break in the weather. These crews consisted of the CO, XO, and four of the five department heads for three FCFs.

For the second day in a row, the base meteorological office was reporting 700-foot overcast conditions. Having less than optimal FCF weather, the crews busied themselves with the personal and administrative details.

As the day progressed, the crews watched the weather, constantly looking out windows and calling metro.

The skipper was the first to notice the large patches of blue sky peering through the clouds and quickly handed out the latest weather forecast: improving conditions. All the crews dropped what they were doing and hustled into their flight gear. As they walked

outside to man up, the large patches of blue had gotten a little smaller. Sunset was also right around the corner.

On one hand, we had the operational requirement to complete the FCFs and get the jets out to the ship. On the other hand, we had marginal weather that could be getting worse and the sun sinking on the horizon. This is where we should have started applying operational risk management. When does the little voice in the back of your head become loud enough for you to hear it? In this situation, with the vast amount of experience in each cockpit, the voices should have been yelling.

They weren't.

All three aircraft launched, and while airborne the field went IFR. The little voices were finally heard, and the crews recognized the risks. The F-14s returned to the field on instrument approaches.

The pressure of operations, or any kind of pressure either perceived or real, can many times cloud your judgment. The key is to manage the risk and reduce it to a workable level. Ideally, when the risk becomes too great, a reasonable person will recognize this fact, discontinue the task, and apply this data to the next scenario.

In most cases, aircrew debriefs after an FCF are rare. However, as a result of this incident, these crews had a lengthy discussion. Afterward, a definitive policy was established that would affect the go-no-go criteria for future FCFs in this squadron. Below are a few of these new SOPs.

1. For "A" or "B" profiles, the aircraft must be airborne one hour before official sunset.

2. In no case will an FCF land later than 15 minutes after official sunset.

3. "A" and "B" profiles must be done in VMC or clear of clouds, with forecast ceiling and visibility of at least 3,000 feet and 5 miles.

4. "C" profiles must have forecast weather that will allow for a VFR departure and arrival (1,500 and 3 at NAS Oceana) and be conducted clear of clouds.

5. The aircrew will not launch if they can not be reasonably sure of completing the profile given the weather and time constraints described above.

LCDR Turner flew with VF-41. He is now assigned to VFC-12.

RANDOM NOTES

A youngster in South Carolina, writing an assignment for the 5th grade, succinctly nailed down the real truth about pilots. This was first published in the South Carolina Aviation News.

When I grow up I want to be a pilot becauz its a fun job and easy to do. Thats why there are so many pilots flying around these days.

Pilots don't need much school. They just have to learn to read numbers so they can read their instruments.

I guess they should be able to read a road map too.

Pilots should be brave so they wont get scared if it's foggy and they can't see, or if a wing or motor falls off.

Pilots have to have good eyes to see through the clouds, and they cant be afraid of thunder or lightening because they are much closer to them than we are.

The salary pilots make is another good thing I like. They make more money than they know what to do with. This is becauze most people think that flying a plane is dangerous, except pilots dont becauze they know how easy it is.

I hope I dont get air-sick becauze I get car-sick and if I get air-sick I couldn't be a pilot and then I would have to go to work.

The
End